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Suppliers' Information Note

For The BT Network

BT Dense Wave Division Multiplex Wavelength Services

Service Description

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1. Introduction

This Suppliers' Information Note (SIN) provides a description of the BT's Dense Wave Division Multiplex (DWDM) Wavelength services and their interfaces.

2. Service Outline

2.1 General

BT's DWDM Wavelength services are end-to-end managed wavelength services, utilising Dense Wave Division Multiplexing and offering very high bandwidth connectivity of up to 2.5Gbit/s per wavelength. The services are available at the following interfaces: -

Transparent Interface 2.5Gbit/s
Transparent Interface 155Mbit/s
Transparent Interface 622Mbit/s
Fast Ethernet (100Mbit/s)
Fibre Channel (1.06Gbit/s)
2G Fibre Channel (2.125Gbit/s)
FICON (1.06Gbit/s)
Gigabit Ethernet (1.25Gbit/s)
ESCON (200Mbit/s)

Note 1: Some client protocols have distance limitations and may not be available, dependant on the distance between customer sites (i.e. ESCON limited to <40km and Fibre Channel limited to <100km)

Note 2: Transparent Interfaces are clear channels so that there are no constraints on the format of the bit pattern or frame structure other than those of the line code/application code.

2.2 Service Options

BT's DWDM Wavelength services are offered in different configurations that are marketed under different service names. Options include:

- Service available within a distance-limited Metropolitan area or over greater distances, dependant on the specific service
- protected wavelengths using, as far as possible, dual access diverse fibre routes (a "worker" and a "protection" route) between the customer sites and nodes of BT's DWDM network
- unprotected wavelengths using, single access fibre routes between the customer sites and nodes of BT's DWDM network
- the number of customer sites able to be linked

2.3 Geographical Availability

BT's DWDM Wavelength services are offered in all major cities of the United Kingdom, but provision is "Subject to Survey".

3. Customer Interface

The customer interfaces offered are shown in Table 1. These interfaces are described in the documents listed against each interface in clause 6, References.

Service supported	Bandwidth bit/s	1310 nm	850nm
		SM	MM
Transparent Interface[9]	**155M**	**Yes**	**No**
Transparent Interface[9]	**622M ***	**Yes**	**No**
Transparent Interface[9]	**2.5G**	**Yes**	**No**
ESCON[4]	**200M**	**Yes**	**Yes**
Gigabit Ethernet[8]	**1.25G**	**Yes**	**Yes**
Fibre Channel[6]	**1.06G**	**Yes**	**Yes**
2G Fibre Channel[6]	**2.125G**	**Yes**	**Yes**
FICON[7]	**1.06G**	**Yes**	**Yes**
Fast Ethernet[5]	**100M ****	**Yes**	**No**

Table 1. Interfaces supported

Note: * 850nm MM is not available on all DWDM services.
** Fast Ethernet is not available on all DWDM services.

3.1 Client Protocol Restrictions

There are limitations due to protocol latency, rather than optical performance, for some of the protocols which will restricts the circuit distance (see clause 2.1 Note 1).

3.2 Connector

The interface is at the Network Termination Point (NTP), i.e. the point of connection between the BT Network Terminating Equipment (NTE) and the CPE interface. Optical interfaces are presented as SC/PC or LC/PC (on request) connectors.

3.3 Fibre

The fibre optic cables that BT uses in the deployment of its DWDM service meets with the fibre optic cable specifications as detailed below.

Local Single Mode Fibre in accordance with G.652[2].
Remote Single Mode Fibre in accordance with G.652[2].
Multi-Mode Fibre 62.5 µm @ 850nm in accordance with G.651[1].

4. NTE Power Requirements

The BT NTE requires a 230V AC mains supply. The power consumption of the NTE will depend on the customers' requirements.

If the customer wishes the NTE to be powered from a 48V DC supply, it is the customer's responsibility to provide and maintain this supply.

5. Further Information

Please note that the product is no longer available for new supply. Further information on BT's DWDM Wavelength services, including connection availability between particular sites, is available from the Advanced Data Services Helpdesk. If you have enquiries relating to this document then please contact: sinet.helpdesk@bt.com

6. References

1	ITU-T G.651	Recommendation G.651 (02/98) - Characteristics of a 50/125 µm multimode graded index optical fibre cable
2	ITU-T G.652	Recommendation G.652 (04/97) - Characteristics of a single-mode optical fibre cable
3	SIN 373	BT WaveStream Connect-Service Description
4	ESCON	SIN 373 - BT WaveStream Connect, Service Description
5	Fast Ethernet	SIN 118 LAN Extension Service Nos.1, 2 & 10- Service Description
6	Fibre Channel	SIN 373 - BT WaveStream Connect, Service Description
7	FICON	FICON, the IBM zSeries zOS channel protocol succeeding ESCON
8	Gigabit Ethernet	SIN 360 Gigabit Ethernet for the BT Network - Interface Characteristics
9	ITU-T G.957	Optical interfaces for equipments and systems relating to the synchronous digital hierarchy

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7. Abbreviations

CPE	Customer Premises Equipment
DWDM	Dense Wavelength Division Multiplexing
ESCON	Enterprise Systems Connectivity architecture
FC/PC	Fibre Connector / Planar Convex
FDDI	Fiber Distributed Data Interface
FICON	FIbre Connectivity
Gbit/s	Gigabits per second
IBM	International Business Machines
ITU-T	International Telecommunication Union- Telecommunications Standardization Sector
LAN	Local Area Network
Mbit/s	Megabits per second
MM	MultiMode
NTE	Network Terminating Equipment
NTP	Network Terminating Point
SC/PC	Subscription Channel / Physical Contact
SIN	Supplier Information Note
SM	Single Mode
WDM	Wavelength Division Multiplexing

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8. History

Issue	Date	Changes
Issue 1.0	May 2002	First published.
Issue 2.0	June 2003	Title changed from "BT Wavestream Connect National and Wavestream Metro" to "BT Dense Wave Division Multiplex Wavelength Services". Detail of internal BT network removed. Introduction of 2G Fibre Channel interface and removal of the Digital Video (270Mbit/s) DVB-ASI interface. Interfaces previously described as "STM" now described as "Transparent Interface" and 2.5 Gbit/s Transparent Interface added to Customer Interfaces Table.
Issue 2.1	June 2003	Editorial changes and correction to History for issue 2.0.
Issue 2.2	October 2003	Addition of SC/PC option at some NTEs added.
Issue 2.3	November 2004	Unprotected wavelength added to examples of service options. Information on wavelengths moved to Table 1. 48 V NTE power requirements re-worded. Editorial changes.
Issue 2.4	August 2005	850nm option for 622Mbit interface removed.
Issue 3.0	May 2011	Removal of 1310nm Multi Mode
Issue 3.1	January 2016	Change SINet site references from http://www.sinet.bt.com to http://www.btplc.com/sinet/
Issue 3.2	June 2019	Section 5 updated to advise product no longer available for new supply.
Issue 3.3	July 2020	Change SINet site references from http://www.btplc.com/sinet/ to https://www.bt.com/about/sinet

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